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MULTIPLE-PURPOSE WATERSHED PROJECTS

Under Public Law 566

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UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

PA-575

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MULTIPLE-PURPOSE WATERSHED PROJECTS

Under Public Law 566

By Watersheds Staff, Soil Conservation Service

Experience in hundreds of localities demonstrates that multiple-purpose small watershed projects are an effective means of dealing with land use and water resource problems, of improving the quality of life in both rural and urban America, and of balancing our future national growth.

Since 1954, when the Watershed Protection and Flood Prevention Act (Public Law 566) was enacted, many rural and urban communities have shown that they can halt unchecked soil erosion and excessive water runoff, reduce destructive floods, improve drainage conditions on land in agricultural production, provide for more efficient irrigation, supply water for growing municipal needs, attract new industries, enhance fish and wildlife resources, and provide developments for recreation.

Small watershed projects have come to mean protecting, managing, improving, and developing the water and related land resources of a watershed up to 250,000 acres in size through a project-type undertaking.

- A project is planned and carried out jointly by local, state, and federal agencies with the full understanding and support of a large majority of the landowners and citizens of the community.
- It can include many purposes: Flood prevention; agricultural water management; ground-water recharge; water-quality management; control of agriculture-related pollution; municipal and industrial water supply, both for present and future use; recreation and fish and wildlife development.
- It is based on (1) local initiative and responsibility, (2) federal technical, cost-sharing, and credit assistance, and (3) state review and approval of local proposals and opportunity for state financial and other assistance.
- It is a combination of land treatment, nonstructural, and structural (dams, levees, grade-stabilization structures, etc.) measures to enhance en-

vironmental quality, maintain the resource base, and improve economic and social conditions in watershed areas.

- It bridges the resource-development gap between the soil and water conservation work of individual land-owners and large federal and state public-works projects for water resource development in major river valleys.

The Soil Conservation Service (SCS) of the U.S. Department of Agriculture has primary responsibility for carrying out the program with assistance from other federal, state, and local agencies.

Facts about multiple-purpose watershed projects—how they get started; how they are constructed, financed, operated, and maintained; what the Federal Government does; and what the local people do—are on the following pages.

GETTING STARTED

An application for federal help in developing and carrying out a watershed project can be submitted by any local organization having authority for such activities under state law. The law requires that the project be limited to a watershed area no larger than 250,000 acres.

State agencies and qualified local organizations can *sponsor* or *cosponsor* an application. They include soil and water conservation districts; municipalities; counties; watershed, flood-control, conservancy, drainage, irrigation, or other special-purpose districts;

and irrigation and reservoir companies, water users' associations, or similar organizations not operated for profit. Other organizations can *endorse* project applications.

The application includes (1) the name, size, and location of the principal tributaries in the watershed; (2) description of the land and water problems; (3) details about the work needed, including the anticipated environmental impact; (4) information about the sponsoring organization and their source of funds; and (5) comments from state and areawide clearinghouses.

Application forms can be obtained from the state agency designated to approve applications for assistance (see list, p. 12), or from the Soil Conservation Service. Completed applications are sent to the designated state agency.

If the state agency disapproves the application, there is no further action. If it approves, it sends the application to the SCS state conservationist. If he determines that it is legally valid, he sends it to the Washington office of SCS. Receipt of the application is acknowledged by the Administrator of SCS. Further action is dependent on the availability of planning help and the priority recommendations of the state agency.

When SCS is able to furnish planning assistance, the state agency is requested to consider all unserved applications in the state and to recommend those next in line for help. Each state agency has established criteria that must be met before an application is awarded a high priority rating. If an application meets the following conditions, it will satisfy the criteria of most states:

1. Sponsoring local organizations have the legal authority and will use it to meet their commitments for carrying out and maintaining the project.

2. Help is desired to achieve full multiple-purpose development of the water and related land resources of the watershed.

3. Material progress has been or is being made in applying soil and water conservation measures on individual farms and ranches.

4. The proposed project will benefit a substantial number of people through improved resource use that will permit higher standards of living and a wider sharing of life's amenities in watershed areas and help bring about the redistribution of the nation's growing population.

5. Interest in and understanding and support of the project is prevalent throughout the watershed.

Certain states, however, may have special criteria. By working closely with their state agency, local organizations can find out what they must do to obtain a high priority rating.

As soon as it is known that a watershed will be considered for planning priority by the designated state agency, SCS conducts a field examination of the watershed to determine the potential for an acceptable watershed plan, the probable plan elements to be investigated, and the probable impact of each element.

After the sponsors hold a public meeting to determine the public's preference and after any necessary revision of the field examination report, the

SCS state conservationist prepares a study plan for the watershed. Sixty days before the time he will be able to furnish planning assistance, he requests the SCS Administrator to authorize such help. Ordinarily, planning help is authorized for a number of watersheds at 1 to 2 month intervals. Upon authorization, the SCS state conservationist will make help available to start preparing a watershed plan.

MAKING THE WATERSHED PLAN

An SCS watershed planning staff composed of engineers, hydrologists, geologists, economists, and other needed specialists is assigned to work with the local SCS representative to make environmental assessments and help the sponsoring organization develop a watershed plan. The Forest Service also assists. The Farmers Home Administration (FmHA) works with the local organization when it wishes to obtain a watershed loan. The Fish and Wildlife Service and the state game and fish agency make studies relating to the impact of the proposed project on fish and wildlife resources. The Bureau of Outdoor Recreation may help in connection with recreation developments. Other federal and state agencies are notified by SCS of initiation of the studies and are invited to participate.

Findings are reviewed with the local organizations at progressive stages of planning. Then a draft plan is prepared that sets forth (1) the proposed land and water resource protection and development measures, (2) the cost of the proposed measures and cost-sharing arrangements, (3) the benefits, (4) the methods and schedule for installing and

maintaining the measures, (5) a description of alternatives considered and why they were discarded, (6) the environmental impact of the project, (7) the provisions of land acquisition and displacement of any person, business or farm operation, and (8) comments from the designated clearinghouse.

What the Plan Can Include

Land Treatment

Land-treatment measures are basic to any watershed project. Structural measures cannot be fully effective unless these soil and water conservation measures are applied on individual farms and ranches, other rural land, the public lands, and critically eroding areas of the watershed.

For this reason, either the law or Department of Agriculture policy requires as a condition to providing assistance for structural measures that:

1. One-half of the land above flood-water retarding dams and retention reservoirs *must* be under basic conservation plans.

2. Not less than 75 percent of the effective land-treatment measures must be installed or their installation provided for on those sediment-source areas that are a serious hazard to the design, operation, or maintenance of any structural measure.

3. Installation is assured of on-farm practices needed to realize benefits from any structural measure for drainage or irrigation.

The basic conservation plans are the same kind that farmers, ranchers, and other landowners make with technical help through soil and water conservation districts.

Flood Prevention

Flood prevention measures in watershed projects include land-stabilization measures to prevent the destruction of land and thereby to reduce the movement of damaging amounts of sediment to stream channels and lower land. Large gullies and severely eroding land may be brought under control with vegetation or structures. Road banks and fills may be protected. Waterways crossing two or more farms may be improved by shaping and planting. Trees and other vegetation needed to keep the soil tied down may be protected from fire.

Flood prevention also includes both nonstructural and structural measures for flood-plain management to reduce flood damage to groups of landowners, communities, and the general public.

When exceptionally heavy rainstorms sweep across a watershed, runoff may be great even from conservation-treated land. This is especially true if the soil is already saturated or is frozen. The damage from this surplus water can be reduced by dams to retard floodwater; channel improvement; levees and dikes; desilting basins; floodways; floodwater diversions; and special water-holding or water-diverting terraces and dikes. Nonstructural measures include zoning or other regulatory actions, land acquisition, relocation, flood proofing, flood warning systems, etc.

Agricultural Water Management

Agricultural water management measures that can be included in watershed projects are those for (1) irrigation, (2) drainage, and (3) supply and distribution of water for domestic and other agricultural uses.

The irrigation measures may include water-supply reservoirs, diversion dams, pumping plants, sluiceways, canal headworks, canal laterals, and main distribution pipelines to carry water to the farm boundary. They also may include lining canals and sealing storage reservoirs, and measures needed to conserve and use water supplies efficiently and to convey water with the least practical loss.

Drainage measures include all parts of a group drainage system, such as open ditch or tile, drops, checks, flumes, control gates, manholes, and pumping plants.

Help may be given to provide a more uniform supply and distribution of water for agricultural use to two or more landowners if the measures are part of the watershed plan. These measures will be designed to make annual streamflow more stable, to increase the recharge of ground-water reservoirs, and to distribute on a community-wide basis water for livestock and other agricultural purposes.

Public Recreation Development

Developments that create or improve facilities for the enjoyment of outdoor recreation based on the use of or proximity to water in reservoirs, lakes, natural streams, or along shorelines may

be included in watershed projects. Such recreation uses include fishing, hunting, swimming, boating, water skiing, picnicking, camping, and related activities.

A watershed recreation development can include (1) a single reservoir, a single lake, a single reach of shoreline, or a well-defined reach of a single perennial stream (but not the entire stream system of the watershed); (2) land required for public access and public use; and (3) recreation facilities such as roads and trails, parking lots, public water supply, sanitary facilities, power facilities, beach development, boat docks and ramps, plantings and other shoreline or area improvements, and picnic tables and fireplaces.

Public Fish and Wildlife Development

Water-based developments to improve the fish and wildlife habitat can also be included in watershed projects. These may involve added storage capacity in reservoirs to regulate streamflow, modification of reservoir structures for releasing cold water, channel improvement, and marshes and pits to provide breeding and nesting areas for migratory waterfowl and aquatic mammals.

Municipal or Industrial Water Supply

To improve economic and social conditions in watershed areas, developments for supplying water for municipal or industrial use should be included wherever feasible. Storage capacity in

reservoirs may be planned for present or future use. Pipelines conveying water from a reservoir or stream to a filter plant or distribution system may be included.

Other Measures

Watershed projects may include other water-management measures such as storage in reservoirs for pollution abatement by streamflow regulation or saline-water-intrusion control.

WATERSHED PLAN APPROVAL

The draft watershed plan is reviewed in SCS for technical adequacy and conformity with legal and policy requirements. The sponsoring local organizations and SCS jointly conduct local reviews, including at least one public meeting, and an interagency review by federal and state agencies. After resolution of comments, the final plan is then prepared and signed by all the sponsoring local organizations.

If the plan does not include any single structure exceeding 2,500 acre-feet capacity and does not involve a federal contribution to construction costs in excess of \$250,000, the SCS state conservationist approves the plan for SCS and authorizes the federal assistance proposed.

If, however, the plan contains provisions that exceed either of the above limitations, it must be submitted to the SCS Washington office for the following action:

1. Transmittal to the Office of Management and Budget by the Secretary of Agriculture.

2. Transmittal to the Congress by the Office of Management and Budget.

3. Approval by the Committee on Agriculture and Forestry of the U.S. Senate and by the Committee on Agriculture of the House of Representatives or by the Committees on Public Works in both the Senate and House of Representatives. These committees may hold hearings on the plan and may request testimony from representatives of the local organizations.

4. Authorization by the SCS Administrator to furnish the federal assistance specified in the plan when funds are available.

FINANCING THE PROJECT

The SCS Administrator allocates funds for watershed projects from money appropriated each year by the Congress. Priority is given to the allocation of funds for technical assistance and engineering services. Funds for construction are allocated according to the readiness of local organizations to install, operate, and maintain the planned measures.

Cost Sharing

Nonfederal Costs

Nonfederal costs include:

1. Installing land treatment measures on nonfederal land.

2. Acquiring all land rights except for public recreation or fish and wildlife development. These costs include removal, relocation, or replacement of bridges, roads, pipelines, buildings, fences or wells, whether done by the local organization or by the owners.

3. At least 50 percent of acquiring land rights for public recreation or fish and wildlife development.

4. Acquiring water rights.

5. Administering contracts on nonfederal land unless work is done by federal contract.

6. All construction not allocated to (a) flood prevention, (b) agricultural water management, (c) water-quality management, and (d) public recreation or fish and wildlife development.

7. At least 50 percent of construction allocated to (a) agricultural water management and (b) public recreation or fish and wildlife development.

8. Engineering and other installation services not allocated to (a) flood prevention, (b) agricultural water management, (c) water-quality management, and (d) public recreation or fish and wildlife development.

9. At least 50 percent of the engineering and other installation services required for minimum basic facilities for public recreation or for fish and wildlife development.

10. Operating and maintaining works of improvement on nonfederal land.

11. An equitable share of operating and maintaining works of improvement on federal land in consideration of the benefits that accrue to nonfederal land.

Federal Costs

The Federal Government pays the following costs:

1. Technical assistance for planning and applying land treatment measures on nonfederal land.

2. A part of the cost, not to exceed the rate provided under other agricultural programs, for certain land-treatment measures when specifically authorized by the SCS Administrator.

3. Installation of land-treatment measures on federal land.

4. All construction allocated to flood prevention and for water-quality management if recommended by the Environmental Protection Agency.

5. Engineering and other services (including engineering services associated with the administration of contracts) allocated to (a) flood prevention, (b) agricultural water management, (c) water-quality management, and (d) public recreation or fish and wildlife development.

6. Not more than 50 percent of the construction allocated to (a) agricultural water management and (b) public recreation or fish and wildlife development.

7. Not more than 50 percent of the engineering and other installation serv-

ices required for minimum basic facilities for public recreation or fish and wildlife development.

8. Not more than 50 percent of land rights required for public recreation or fish and wildlife development.

9. Administering contracts when awarded by a federal agency.

Recreation Development Limitations

Recreation developments eligible for cost sharing must be open to the public. They are limited to one in a project of less than 75,000 acres, to two in a project of 75,000 to 150,000 acres, and to three in a project larger than 150,000 acres.

Advances

After a watershed plan is approved, SCS may "advance" funds to the sponsoring organizations to preserve sites for future construction. Such advances must be repaid with interest before construction. They will be processed by FmHA, obligated and disbursed by SCS, and repaid to FmHA.

SCS may also advance funds to develop water supply for future municipal or industrial use up to 30 percent of the cost of any multiple-purpose reservoir. Repayment may be deferred up to 10 years without interest. Local organizations must furnish assurance that such water supply will be used and must agree to a schedule of repayment before construction.

Loans

To help the local organization pay its share of the project cost the Farmers Home Administration may make loans to the sponsoring local organization. A maximum loan of \$5 million may be made to one project for a period up to 50 years at the federal long-term borrowing rate.

CARRYING OUT THE PROJECT

There's a job for everyone in carrying out a watershed project—the sponsoring local organizations; individual landowners; citizens of the community; local, state, and federal agencies; and community public and private organizations and groups.

Responsibilities of the Local Organizations

The major responsibilities are to:

1. Acquire land, easements, and rights-of-way needed for structures or other improvements on private land. The local organization may acquire them by purchase or gift. Included are removal, relocation, or replacement of bridges, roads, railroads, pipelines, buildings, fences, or wells, whether done by the local organization or by the owners.

2. Let contracts for construction or request the federal agency to administer contracts.

The local organization and the SCS

enter into an agreement covering each contract for construction (or for land rights for recreation or fish and wildlife development). This agreement is the basis for obligating federal funds.

3. Obtain agreements from land owners and operators to plan and apply soil and water conservation measures and provide assurance of the application of a high percentage of these land-treatment measures.

4. Comply with state laws governing watershed improvements, water rights, or specifications for structures.

Information and Education

To carry out the project, all people in the watershed must be fully informed about what is being done and why and what each group's responsibilities are. This calls for a continuing program of information and education.

Technical Assistance for Land Treatment

The Soil Conservation Service gives technical assistance to landowners who plan and apply soil and water conservation measures on their farms and ranches or other rural land. Landowners receive this assistance through soil and water conservation districts. Additional technical assistance may be given from funds appropriated under Public Law 566 only as they are required to complete land-treatment measures within the agreed-upon period for project installation.

SCS technical assistance includes:

1. Making a soil survey from which the land can be classified according to its capability for use and needs for treatment.

2. Helping landowners to plan the use and treatment of their land in accordance with this classification.

3. Aiding landowners to plan and apply soil and water conservation practices such as:

- Terraces, dams, diversions, waterways, contour farming, strip-cropping, and the growing of green-manure cover crops and other vegetation needed to protect the soil from wind and water erosion and to restore, improve, and maintain soil productivity.
- Seeding, sodding, or other vegetative land stabilization measures on critically eroding areas.
- Irrigation, chiseling, subsoiling and pitting, contour furrowing, water spreading, drainage, wells, ponds, and other improvements to provide and conserve water for crops, livestock, fish and wildlife, and forage production.
- Stocking rates, reseeding, erosion control, and other practices necessary to restore and improve range and permanent pastures not in national forests or managed in conjunction with national forests.
- Woodland-conservation practices that can be applied with general technical help.

The Forest Service provides the specialized technical assistance that landowners need to apply the more difficult forestry practices. This assistance usually will be made available through the state forestry agency. It includes forest protection, distribution of planting stock, and other specialized technical aid in forest management.

The Forest Service gives necessary technical help with conservation measures needed to restore or improve privately owned rangeland within national forests. The Forest Service also gives this assistance on rangeland adjoining national forests and administered in conjunction with the forests under formal agreement with the owners or lessees.

Engineering Help With Structures

The local organization has the option of using nonfederal professional engineers or Soil Conservation Service engineers.

If the local organization requests, SCS can provide the engineering services for structural measures. These services include surveys, site investigations, layout, design, preparation of specifications, contract administration, and supervision of construction of structures.

If the local organization uses nonfederal engineers satisfactory to SCS, it may be reimbursed by SCS for the cost allocated to flood prevention, agricultural water management, and recreation or fish and wildlife development. The local organization must provide or employ professional engineers for

municipal or industrial water-supply development.

Other Available Help

In addition to assistance under Public Law 566, aid is available from other federal, federal-state, and state programs dealing with land, water, plants, recreation, and fish and wildlife.

The Soil Conservation Service uses, and encourages other agencies to use, all help available under other federal legislation to speed the completion of watershed projects.

This help includes—

1. Educational assistance from the cooperative Federal-State Extension Service.

2. Agricultural program cost sharing as available.

3. Credit from the Farmers Home Administration.

4. Farm-forestry assistance under the Cooperative Forest Management Act.

5. Protection of forest areas from fire, insects, and diseases under cooperative programs authorized by the Clarke-McNary Act, Forest Pest Control Act, and White Pine Blister Rust Protection Act.

6. Cost sharing under the Great Plains Conservation Program (Public Law 1021).

7. Assistance in recreation and fish and wildlife development from the Fish and Wildlife Service, the Bureau of Outdoor Recreation, and state recreation and fish and game agencies.

8. Technical, cost-sharing, and credit assistance from the U.S. Department of Agriculture authorized by the Agricultural Act of 1962 for income-producing recreation developments on rural land, the Cropland Retirement Program, and Resource Conservation and Development Projects.

9. Protection and treatment of federal land in the watershed by land-managing agencies.

Public Land Improvements

The agency administering federal land within the watershed is responsible for installing on this land the land-treatment and structural measures provided for in the watershed plan.

The state is responsible for structures and other improvements that may be needed on state-owned land within the watershed.

MAINTAINING THE PROJECT

Sponsoring local organizations are responsible for operating and maintaining all structures and developments on private land. A written agreement

on maintenance is required before federal funds are made available for any part of the construction cost.

Structures and soil and water conservation measures on federal land are maintained by the agency administering the land.

Soil and water conservation measures on individual farms and ranches or other rural land are maintained by the owners and operators under agreements with their local soil and water conservation district. If the watershed is outside a soil and water conservation district, the local organization must make maintenance arrangements satisfactory to SCS for fulfilling this responsibility.

Recreation Fees

The local organization may charge fees for public recreation provided such fees do not produce revenues in excess of the local organization's requirements to amortize its initial investment and provide adequate operation and maintenance.

The local organization is required to establish a schedule of maximum admission or use fees that may be charged by private concessionaires.

State Agencies Designated To Approve Applications for Assistance Under Public Law 566

ALABAMA.....	State Soil and Water Conservation Committee
ALASKA.....	State Department of Natural Resources
ARIZONA.....	State Land Department
ARKANSAS.....	State Department of Commerce
CALIFORNIA.....	State Resource Conservation Commission
COLORADO.....	State Soil Conservation Board
CONNECTICUT.....	State Department of Environmental Protection
DELAWARE.....	The Governor
FLORIDA.....	State Soil and Water Advisory Committee
GEORGIA.....	State Soil and Water Conservation Committee
HAWAII.....	State Board of Land and Natural Resources
IDAHO.....	State Soil Conservation Commission
ILLINOIS.....	The Governor
INDIANA.....	State Department of Natural Resources
IOWA.....	State Department of Soil Conservation
KANSAS.....	State Watershed Review Committee
KENTUCKY.....	State Department for Natural Resources and Environmental Protection
LOUISIANA.....	State Soil and Water Conservation Committee
MAINE.....	State Soil and Water Conservation Commission
MARYLAND.....	State Soil Conservation Committee
MASSACHUSETTS.....	State Division of Water Resources
MICHIGAN.....	State Soil Conservation Committee
MINNESOTA.....	State Soil and Water Conservation Commission
MISSISSIPPI.....	State Soil and Water Conservation Commission
MISSOURI.....	The Governor
MONTANA.....	State Department of Natural Resources
NEBRASKA.....	State Natural Resources Commission
NEVADA.....	State Department of Conservation and Natural Resources
NEW HAMPSHIRE.....	State Soil Conservation Committee
NEW JERSEY.....	State Bureau of Water Resources Planning
NEW MEXICO.....	State Engineer
NEW YORK.....	State Department of Environmental Conservation
NORTH CAROLINA.....	State Soil and Water Commission
NORTH DAKOTA.....	State Soil Conservation Committee
OHIO.....	State Department of Natural Resources
OKLAHOMA.....	State Conservation Commission
OREGON.....	State Engineer
PENNSYLVANIA.....	Bureau of Soil and Water Conservation
RHODE ISLAND.....	State Department of Administration
SOUTH CAROLINA.....	State Water Resources Commission
SOUTH DAKOTA.....	State Department of Natural Resources Development
TENNESSEE.....	State Soil Conservation Committee
TEXAS.....	State Soil and Water Conservation Board
UTAH.....	State Soil Conservation Commission
VERMONT.....	State Agency of Environmental Conservation
VIRGINIA.....	State Soil and Water Conservation Commission
WASHINGTON.....	State Department of Ecology
WEST VIRGINIA.....	State Soil Conservation Committee
WISCONSIN.....	State Board of Soil and Water Conservation Districts
WYOMING.....	State Conservation Commission
PUERTO RICO.....	Secretary of Natural Resources, Puerto Rico

